

## CLAIMS

What is claimed is:

1. The method of communicating with a private or public telecommunications system; the method comprising:

interfacing with the network elements which comprise a public communication network, wherein the network includes network elements consisting of at least one switching center, and an intelligent network that includes a number of network elements having a service switching function or service control function;

interfacing with the network elements which comprise a private communication network, wherein the network includes a private branch exchange in which access is provided between the public communications network and the private network over at least one interface;

utilizing the native communication protocols supported by the network elements located in the domain of both the public communications network and private network;

2. The method according to claim 1, wherein the informational and control parameters and variables associated with a public telecommunications network element are distilled into a vector of alphanumeric values or objects.

3. The method according to claim 1, wherein the informational and control parameters and variables associated with a private network element are distilled into a vector of alphanumeric values or objects.

4. The method according to claim 2, wherein a vector of alphanumeric values or objects define the state of a particular subscriber;
5. The method according to claim 2, wherein a vector of alphanumeric values or objects define the state of a particular circuit-switched or packet-switched session.
6. The method according to claim 3, wherein a vector of alphanumeric values or objects define the state of a particular subscriber;
7. The method according to claim 3, wherein a vector of alphanumeric values or objects define the state of a particular circuit-switched or packet-switched session.
8. The method according to claim 2, wherein the vector of alphanumeric values or objects define the controllable attributes of a public telecommunications network element.
9. The method according to claim 3, wherein the vector of alphanumeric values or objects define the controllable attributes of a private network element.
10. The method according to claim 2 wherein the set alphanumeric values or objects are utilized to provide an application programming interface which execute on a computer platform.
11. The method according to claim 3 wherein the set alphanumeric values or objects are utilized to provide an application programming interface which execute on a computer platform.

12. A system comprised of one or more public network gateways and one or more private network gateways.

13. The system of claim 12, wherein the public network gateway is a computer platform comprising:

memory for storing service execution logic;

a database for storing service logic data and subscriber data;

service execution logic for one or more telecommunication services;

a mechanism for loading and executing service logic;

interfaces for the purpose of communicating with public telecommunication network elements utilizing the native communication protocols supported by the network elements;

interfaces for the purpose of communicating with other public network gateways utilizing a communication channel and protocol.

14. The system of claim 12, wherein the private network gateway is a computer platform comprising:

memory for storing service execution logic;

a database for storing service logic data and subscriber data;

service execution logic;

a mechanism for loading and executing service logic;

interfaces for the purpose of communicating with private network elements utilizing the native communication protocols supported by the network elements;

interfaces for the purpose of communicating with public network gateway utilizing a communication channel and protocol.

15. The system of claim 12, wherein public network gateways and private network gateways execute service logic for the provision of telecommunication services utilizing an application programming interface.

16. The system of claim 12, wherein public network gateways convey service requests and responses to private network gateways and other public network gateways via an application programming interface.

17. The system of claim 12, wherein private network gateways convey service requests and responses to public network gateways and other private network gateways via an application programming interface.

18. The system of claim 12, wherein public network gateways convey service logic to private network gateways and other public network gateways via a communication channel and protocol.

19. The system of claim 12, wherein private network gateways convey service logic to public network gateways and other private network gateways via a communication channel and protocol.

20. The system of claim 13, wherein the local database contains data pertaining to the state of circuit-switched calls, data-packet sessions, and applications as well as state and profile information pertaining to subscribers.

21. The system of claim 14, wherein the local database contains data pertaining to the state of circuit-switched calls, data-packet sessions, and applications as well as state and profile information pertaining to subscribers.

22. The system of claim 20 wherein, the state and profile information of a group of subscribers is associated with a single record.

23. The system of claim 21 wherein, the state and profile information of a group of subscribers is associated with a single record.

24. The system of claim 12, wherein public network gateways and private network gateways interface with network elements for the purpose of terminating or transcoding bearer traffic.

25. The method of generating and executing telecommunication services, the method comprising:

the loading and execution of service logic on a computer platform;

detecting a trigger event;

reacting to a trigger event by executing the service logic appropriate to the indicated service request or response as well as the state and profile associated with a given subscriber;

updating the state information associated with a subscriber, network element, circuit-switched connection, or packet-switched session.

26. The method of claim 25, wherein the trigger event may be comprised of:

a service request or response conveyed via an application programming interface relating to an event which has transpired on a given public or private telecommunications network element; or

a service request or response conveyed from service logic executed locally on the computer platform; or

a service request or response conveyed via an Application Programming Interface relating to an event which has been relayed via another computer platform;

27. The method of claim 25, wherein the service logic associated with a given telecommunications service is distributed among one or more computer platforms located within the domain of either the private network or public telecommunications network.

28. The method of claim 25, wherein the computer platform on which the service logic executes directly interfaces with a network element located in the public telecommunications network or private network.

29. The method of claim 25, wherein the computer platform on which the service logic executes does not directly interface with a network element located in the public telecommunications network or private network.

30. The method of claim 25, wherein the service logic determines the appropriate treatment and rating for a telecommunication service.

31. The method of claim 25, wherein the computer platform generate records providing descriptions of services which have been provided or for services which were denied using the service logic hosted by the computer platform.

32. The method of claim 31, wherein the computer platform generate records which provide charging information for services provided or for services which were denied.

33. The method of claim 25, wherein the service logic may execute algorithms serially or concurrently in one or more computer platforms to provide a telecommunications service.

34. The method of claim 25, wherein a given service request is validated against the subscriber state and profile information before the service is rendered.

35. The method of claim 25, wherein the service logic invokes the functionality or capability of a network element in the public telecommunications network or private network for the provision of a telecommunications service.

36. The method of claim 26, wherein service logic mediates the service requests and responses for the purpose of ensuring compliance with the structure of the application programming interface.

37. The method of claim 25, wherein service logic is transferred and loaded into the memory of the computer platform using removable media.

38. The method of claim 25, wherein service logic is developed and executed on the computer platform using an application programming interface.

39. The method of claim 25, wherein service logic is conveyed to another computer platform via a communication channel and protocol.

40. The method of claim 25, wherein attempts to modify service logic are mediated and validated.